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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/506,382	02/18/2000	Kiyohide Sato	2355.11107	8555

5514 7590 05/21/2003

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30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

YANG, RYAN R

ART UNIT	PAPER NUMBER
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2672

DATE MAILED: 05/21/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/506,382

Applicant(s)

SATO ET AL.

Examiner

Ryan R Yang

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-8 and 15-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-21 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) g.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Continued Prosecution Application

1. The request filed on 3/17/2003 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/506,382 is acceptable and a CPA has been established. An action on the CPA follows.

2. Claims 1-3, 5-8 and 15-21 are pending in this application. Claims 1, 15, 16 and 18-21 are independent claims. This action is non-final.

This application claims foreign priority dated 6/11/99.

3. The present title of the invention is "Marker Layout Method, Mixed Reality Apparatus, and Mixed Reality Space Image Generation Method".

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The language applicant used in "laying out the markers to have a positional relationship that allows a given player not to observe markers to be used by **only** another player when a plurality of players who observe the mixed reality space within different movable ranges observe the mixed reality space" is confusion and does not distinctly claim the invention.

Claims 2-3 and 5-8 are rejected because they are dependent on the rejected claim 1.

Claim Rejections - 35 USC § 102

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1-3 and 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Crane et al. (6,054,991).

As per claim 1, Crane et al., hereinafter Crane, disclose a marker layout method for laying out markers in a real space as position indices upon presenting a mixed reality space, comprising the step of:

laying out the markers to have a positional relationship that allows a given player not to observe markers to be used by only another player when a plurality of players who observe the mixed reality space within different movable ranges observe the mixed reality space ("The graphical representation obscures the first and second objects according to the relative position of the first and second objects to a predetermined observation point within the virtual reality environment", column 2, line 10-14, where the objects are the marker),

wherein the markers to be used by only the given player are laid out at positions hidden by real objects when the markers are observed from the other player (Figure 12 where the objects are markers, since the objects are separated by the partition planes, they are to be observed by some players and not by other players).

8. As per claim 2, Crane demonstrated all the elements as applied to the rejected claim 1, supra, and further discloses a visible feature of the markers to be used by only the other player is similar to a visible feature of the markers used by the given player (Figure 2, since the different players share the same processor and memory, it is anticipated the marker used are similar).

9. As per claim 3, Crane demonstrated all the elements as applied to the rejected claim 1, supra, and further discloses the visible feature includes at least one of color, texture, shape, and size of the marker ("Each terminal (or leaf) node in the tree specified an object (typically an convex polyhedron) composed of some number of polygons", column 11, line 29-11).

10. As per claim 5, Crane demonstrated all the elements as applied to the rejected claim 1, supra, and further discloses the real objects are laid out for an application that uses the mixed reality space (Figure 19 is an example of placing partition planes in a game environment).

11. As per claim 6, Crane demonstrated all the elements as applied to the rejected claim 1, supra, and further discloses the markers to be laid out include markers shared by a plurality of players (Figure 2 84, the game cartridge contains the markers to be shared by all participating players).

12. As per claim 7, Crane demonstrated all the elements as applied to the rejected claim 1, supra, and further discloses the markers have a common color ("each polygon is specified in terms of its color", column 16, line 51-52, where the polygon is of the object).

Allowable Subject Matter

13. Claims 15-16 and 18-21 are allowed.

As per claims 15, 16 and 18-21, the closest prior art by Crane et al. do not explicitly disclose in a mix reality space image generation, a marker layout method the step of

"substituting or overlaying images of the marker regions by predetermined virtual object images".

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Inquiries

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Ryan Yang** whose telephone number is **(703) 308-6133**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Michael Razavi**, can be reached at **(703) 305-4713**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

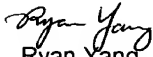
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 305-47000377.


Ryan Yang
May 16, 2003